

January 16, 1998

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### FAST RECOVERY, HIGH CURRENT 1-PHASE FULL WAVE BRIDGE RECTIFIER ASSEMBLIES

- Low forward voltage drop
- Low reverse leakage current
- Aluminum case
- Low thermal impedance
- Fast reverse recovery time

### QUICK REFERENCE DATA

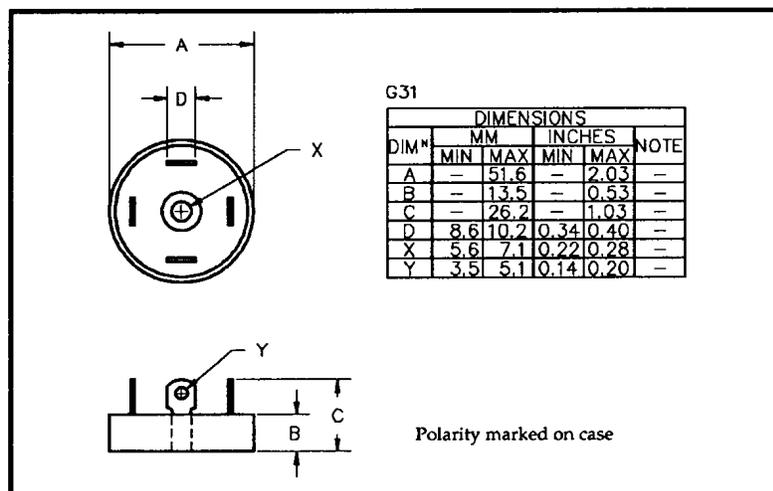
- $V_R = 50V - 400V$
- $I_F = 50A$
- $I_R = 6.0\mu A$
- $t_{rr} = 150nS$

### ABSOLUTE MAXIMUM RATINGS

| Device Type | Working Reverse Voltage $V_{RWM}$ | Average Rectified Current $I_{F(AV)}$ |         |         |                         |        |         | 1 Cycle Surge Current |         |
|-------------|-----------------------------------|---------------------------------------|---------|---------|-------------------------|--------|---------|-----------------------|---------|
|             |                                   | (@ case temperature)                  |         |         | (@ ambient temperature) |        |         | $I_{FSM} t_p = 8.3mS$ |         |
|             |                                   | @ 55°C                                | @ 100°C | @ 125°C | @ 25°C                  | @ 55°C | @ 100°C | @ 25°C                | @ 100°C |
|             |                                   | Volts                                 | Amps    | Amps    | Amps                    | Amps   | Amps    | Amps                  | Amps    |
| SCBAR05F    | 50                                |                                       |         |         |                         |        |         |                       |         |
| SCBAR1F     | 100                               | 50                                    | 31      | 20      | 9.0                     | 6.7    | 4.3     | 375                   | 240     |
| SCBAR2F     | 200                               |                                       |         |         |                         |        |         |                       |         |
| SCBAR4F     | 400                               |                                       |         |         |                         |        |         |                       |         |

$$R_{\theta JC} = 0.7^{\circ}C/W$$

### MECHANICAL



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### ELECTRICAL CHARACTERISTICS

| Device Type                               | Maximum Reverse Leakage Current $I_R @ V_{RWM}$ |         | Maximum Forward Voltage $V_F @ 9A/leg$ | Reverse Recovery Time $t_{rr} @ 25^\circ C$ | Maximum operating & storage temp. range. $T_{OP} T_{STG}$ |
|---|---|---------|--|---|---|
|   | @ 25°C  | @ 100°C |  |   |   |
|   | $\mu A$   | $\mu A$ | Volts                                  | nS  | °C  |
| SCBAR05F<br>SCBAR1F<br>SCBAR2F<br>SCBAR4F | 6.0   | 150     | 1.1                                    | 150   | -55 to +150   |

<sup>1</sup> Measured on discrete devices prior to assembly

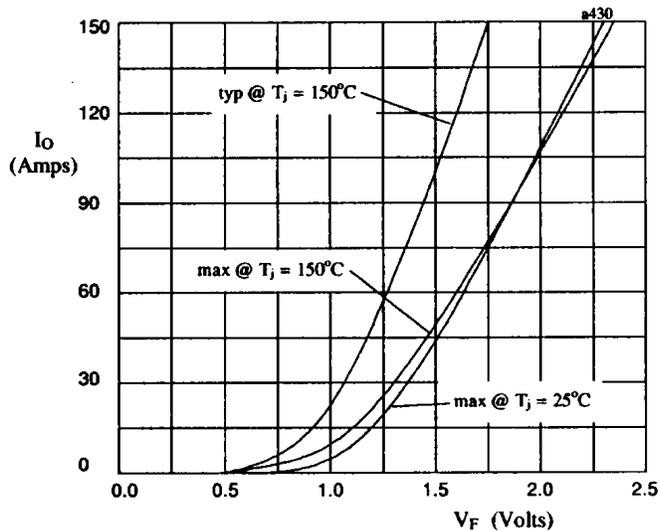


Fig 1. Forward voltage drop against output current per leg.

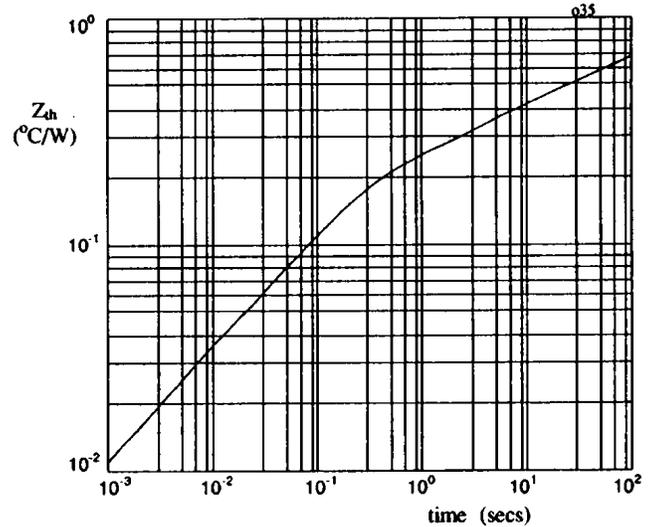


Fig 2. Transient thermal impedance characteristic per leg